

Budon, V.D.

137-58-5-9317

Translation from: Referativnyy zhurnal, Metallurgiya. 1958. Nr 5. p 75 (USSR)

AUTHORS: Tarabayev, S. I., Budon, V. D., Matveyeva, K. T.,
Milyutina, N. A.

TITLE: Direct Leaching of Lead From Sulfide Concentrates (Neposred-
stvennoye vyshchelachivaniye svintsa iz sul'fidnykh kontsentra-
tov)

PERIODICAL: Izv. AN KazSSR. Ser. gorn. dela, metallurgii, str-va i
stroymaterialov, 1957. Nr 4 (15). pp 59-65

ABSTRACT: The process of direct and selective leaching of lead from
sulfidic polymetallic concentrates by means of acidic chloride
solutions was studied under laboratory conditions as well as on
a larger laboratory scale. Optimal leaching conditions for ex-
traction of up to 97-98% of Pb are shown. Along with Pb, Cd
(96% of it) and Ag also pass into the solution. Cu, Au, and Bi
remain entirely in the cakes. The behavior of Zn depends on
the nature of the initial raw material and on the conditions of
leaching.

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1. Lead--Production 2. Lead ores--Processing
3. Chloride solutions--Applications

G.S.

BUDON, V.D.; POLYVYANNYY, I.R.; VIADIMIROV, V.P.

Effect of charge column height on the process data obtained in lead
sulfide concentrates. Izv. AN Kazakh. SSR Ser. gor. dela, met. stroi. i
stroimat. no. 9:62-69 '56. (MLBA 10:2)
(Lead--Metallurgy) (Sintering)

BUDON, V.D.; POLYVYANNYY, I.R.; VIADIMIROV, V.P.

Effect of particle size and charge preparation techniques on the
process data obtained in sintering lead sulfide concentrates. Izv.
AN Kazakh.SSR.Ser.gor.dela, met., stroi.i stroimat.no.9:70-79 '56.
(Lead--Metallurgy) (Sintering) (MLRA 10:2)

SOV/137-58-9-18793

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 91 (USSR)

AUTHORS: Tarabayev, S.I., Milyutina, N.A., Budon, V.D., Dostanova, Z.Kh.

TITLE: Precipitation of Lead From Chloride Solutions. Communication II. (Osazhdeniye svintsa iz khloridnykh rastvorov. Soobshcheniye II)

PERIODICAL: Izv. AN KazSSR. Ser. gorn. dela, metallurgii, str-va i stroymaterialov, 1957, Nr 5 (16), pp 30-36

ABSTRACT: An examination is made of methods of precipitating Pb from chloride solutions. Experiments were run on the crystallization of $PbCl_2$ by chloride solutions during the cooling of solutions resulting from the leaching of Dzhezkazgan concentrates. The resultant $PbCl_2$ was smelted with mineral coal and $CaCO_3$ at 800-900°C to free the metal. Extraction of Pb in ingot form came to 93.52%. It is established that the method of crystallizing $PbCl_2$ with subsequent smelting of the metal from the $PbCl_2$ in the presence of C and $CaCO_3$ makes it possible to obtain metal of adequate purity without prior cleaning of the solutions. The tendency of the solutions to become "exhausted" after Pb

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Precipitation of Lead From Chloride Solutions. Communication II.

precipitation when they are used as return solvents is verified. For Communication I, see RZhMet, 1958, Nr 5, 9317.

N.P.

1. Lead chlorides--Processing
2. Lead--Separation

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Budon, V.D.

BASINA, I.P.; BUDON, V.D.; VDOVENKO, M.I.; ONAYEV, I.A.; TONKONOGIY, A.V.;
SERGIYENKO, V.Ya.

Cyclone smelting of polymetallic concentrates. Vest. AN Kazakh.
SSR 13 no.8:76-82 Ag '57. (MLRA 10:9)

1. Akademiya nauk Kazakhskoy SSR (for Basina, Budon, Vdovenko,
Onayev, Tonkonogiy). 2. Chimkentskiy svintsovyi zavod (for
Sergiyenko).

(Smelting)

67623

SOV/81-59-14-49002

5.2200(C)

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 14, p 92 (USSR)

AUTHOR: Budon, V. D.

TITLE: The Behavior of Rhenium Compounds in the Oxidation Burning of Molybdenum Concentrates

PERIODICAL: Izv. AS KazSSR. Ser. metallurgii, obogashcheniya i ogneporov, 1958, Nr 1, pp 73 - 78 (Kazakh summary)

ABSTRACT: The oxidation rate of rhenium sulfide (I) was studied in relation to temperature. It was established that I is more highly active to oxygen than the sulfides of Cu, Fe and Mo are. The inflammation temperature of grains of I with a size from -150 to +200 mesh is equal to 275-300°C. Depending on the burning temperature of I, various Re oxides are formed. At 290°C volatile Re_2O_7 is formed, producing sublimates in the form of crystals of green-violet color. At 340°C Re_2O_3 of red color and at 100°C the oxide ReO_2 of dark-brown color are formed. At the burning temperature of molybdenum concentrates I is usually oxidized to ReO_2 . For the

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separation of Re in the form of Re_2O_7 it is necessary to eliminate SO_2 from the burning gases which reduces Re_2O_7 by the reactions: $\text{Re}_2\text{O}_7 + \text{SO}_2 = 2\text{ReO}_3 + \text{SO}_3$; $\text{Re}_2\text{O}_7 + 3\text{SO}_2 = 2\text{ReO}_2 + 3\text{SO}_3$.

I. Denisova

Card 2/2

BUDON, V.D.

Interaction of water vapor with metal sulfides. Trudy Inst. met.
i obogashch. AN Kazakh. SSR 2:36-46 '60. (MIRA 13:10)
(Sulfides--Metallurgy)

Starostina
GRYUNER, V.S., professor; STAROSTINA, N.A., kandidat khimicheskikh nauk
REZNIKOVA, S.B., nauchnyy sotrudnik; AFANAS'YEVA, N.V., nauchnyy
sotrudnik; OSMOLOVSKAYA, V.A.; WIKIFOROVA, G.V.; BUDORAGIN, M.G.,
proizv.instr. LYUBIMOV, P.V.

Testing the technical qualities of berry varieties for confection-
ary products. Trudy VNIIE no.10:84-105 '54. (MIRA 8:9)
(Berries)

CHERNOV, A.A.; BUDUROV, S.Y. [Budurov, S.I.]

Forms of growth of macroscopic steps. Smooth curvature of ends and the formation of inclusions. Kristallografiia 9 no.4:466-471 J1-Ag '64.

(MIRA 17:11)

1. Institut kristallografii AN SSSR i Sofiyskiy gosudarstvennyy universitet, Bolgariya.

EUCSEA, M.

EUCSEA, M. Comparative tests for producing crystalline carotene. p. 248

Vol. 9, No. 8, Aug. 1955

ELLMERESI IPAR.

TECHNOLOGY

Budapest, Hungary

So: East European Accessions, Vol. 5, No. 5, May 1956

05201
SOV/142-2-3-12/27

6(6)

AUTHORS: Budov, A.F., Butrim, Yu.I., Kovtun, P.S., Ryazantsev, V.Yu.,
~~Yanovskiy, V.~~

TITLE: Experimental Industrial Television Devices

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, 1959, Vol
2, Nr 3, pp 361-363 (USSR)

ABSTRACT: The authors describe briefly the experimental industrial televi-
sion equipment "Ekran-1", "Ekran-2" and "Ekran-3" which were de-
veloped at the Kafedra radiotekhnicheskikh ustroystv Khar'kovsko-
go politehnicheskogo instituta imeni V.I. Lenina (Chair of Radio
Engineering Equipment of the Khar'kov Polytechnic Institute imeni
V.I. Lenin). The device "Ekran-1" was developed in 1956 for the
visual control of the work of cutting tools on heavy boring and
turning mills with two tool rests. The cameras have the dimensions
170x159x355 mm and a weight of 7 kg. They are mounted directly at
the tool rests. The camera commutator unit, the control panel with
the TV screen are mounted at the master control panel of the ma-
chine tool. During 1957 and 1958 the experimental industrial TV
devices "Ekran-2" and "Ekran-3" were developed. These devices are

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Experimental Industrial Television Devices

more universal and produce high-quality images at a distance of 100-150 m. Additional conventional TV sets may be used at distances of up to 1 km from the control unit. The "Ekran-2" may be used for televising surgical operations. Fig.1 shows the TV camera used for the "Ekran-2" and "Ekran-3". It has the dimensions 110 x 120 x 300 mm and a weight of 3.5 kg. A vidicon pick-up tube is used. A 500 watt light source provides the necessary illumination of 500-1000 lux. With such an illumination the inertia of the vidicon tube is very low and even high-speed production processes may be observed clearly. All TV devices have interlaced image scanning of 600-626 lines. The receiver units of "Ekran-2" and "Ekran-3" are shown by photographs in figs.2 and 3. The interlacing parameters correspond to the USSR TV standard. The synchrogenerator of the industrial TV devices produces a simplified TV signal required for the synchronization of the additional TV sets connected to these devices. The synchrogenerator is composed of ten 6N1P tubes (including cathode followers). The number of bulky parts in the camera units was reduced to a minimum. The focussing of the pick-up tube is achieved by an electric motor operated from the control

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Experimental Industrial Television Devices

panel. The conventional TV sets which may be connected to the "Ekran-2" and "Ekran-3" are fed from a transmitter, consisting of a master oscillator-multiplier (6Zh3P) and an output stage (6Zh2P). The "Ekran-2" device contains provisions for transmitting audio frequencies to the conventional TV sets connected to it. All TV devices receive power from the AC mains. In the "Ekran-1" and "Ekran-2" the feed units contain heater transformers and kenotron rectifiers with electronic stabilization which feed all anode circuits. In the "Ekran-3" germanium and selenium rectifiers are used. Electronic stabilization is used only for feeding the synchronization unit and the camera amplifier. A ferro-resonance voltage stabilizer feeds the entire device. All "Ekran" devices contain only four or five control knobs. The publication of this article was recommended by the Kafedra radiotekhnicheskikh ustroystv Khar'kovskogo instituta imeni V.I. Lenina (Chair of Radio Engineering of the Khar'kov Polytechnic Institute imeni V.I. Lenin). There are 4 photographs.

Card 3/3

SUBMITTED: July 24, 1958

BUDOV, Aleksandr Fedorovich, inzh.; VEKSLER G.S., kand. tekhn.nauk
dots., -etsenzent; BEREZOVSKIY, M.A., inzh., retsenzent

[Laboratory work on the electric power supply of radio
systems] Laboratornye raboty po elektropitaniiu radio-
ustroistv. Kiev, Tekhnika, 1965. 155 p. (MIRA 18:5)

1. Kafedra "Promyshlennaya elektronika" Kiyevskogo poli-
tehnicheskogo instituta (for Veksler, Berezovskiy).

5(4)

SOV/20-122-1-24/44

AUTHORS: Budov, G. M., Losev, V. V.

TITLE: The Investigation of the Electrode Processes on Zinc Amalgam According to the Method of the Radioactive Indicators (Issleniye elektrodnykh protsessov na amal'ame tsinka metodom radioaktivnykh indikatorov)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 122, Nr 1, pp 20-23 (USSR)

ABSTRACT: The purpose of this paper is the measurement of the exchange currents on zinc amalgam by application of radioactive indicators together with polarization measurements and of the determination of the anodic and cathodic maximum currents. Such a combined investigation permits distinct separation of that interval of the concentrations of the amalgam and of the solution in which the velocity of the exchange is limited by the stage of discharge-ionization, and not by the diffusion of the radioactive particles. Moreover, this combined investigation permits comparison of the experimental polarization curves with the theoretical curves. The authors used a previously described (Ref 2) method which was improved by

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SOV/20-122-1-24/44

The Investigation of the Electrode Processes on Zinc Amalgam According to the Method of the Radioactive Indicators

some modifications. The exchange current was measured in an atmosphere of nitrogen at 25°C in the concentration interval $0,00008 - 0,97\text{ M}$ of the amalgam in solutions of $0,0001 - 0,20\text{ M ZnSO}_4$. These samples were acidified by H_2SO_4 ($0,005\text{ M}$) with an admixture of MgSO_4 in order to maintain a constant ionic stress (ionnaya sila). According to preliminary measurements, the exchange current only slightly depends on the number of the revolutions of the mixer. This result applies to a wide interval of concentrations of ZnSO_4 ($0,01 - 0,20\text{ M}$). The results of the measurements of the exchange currents and of the maximum anodic and cathodic currents are given in 2 diagrams. The maximum currents are directly proportional to the corresponding concentrations. The curves $\lg i_0 - \lg C_a$ and $\lg i_0 - \lg C_p$ are composed of 2 parts of different inclination. i_0 denotes the exchange current, C_a and C_p - the volume concentrations of the amalgam and of the solution. In the region of low concentrations, the coefficients of the inclination are similar to 1, and the

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corresponding parts are parallel to the straight lines for the maximum currents. In this region of concentrations, the velocity of the transition of the radioactive particles into the solution is not limited by the stage discharge-ionization, but by the diffusion of these particles. At higher concentrations, the exchange current increases more slowly if the concentration increases. The results of this paper agree sufficiently well with those of other authors. Also the polarization curves were found; the experimental points agree well with the theoretical curves. The authors thank Academician A. N. Frumkin for useful advice. There are 4 figures and 15 references, 7 of which are Soviet.

ASSOCIATION: Institut elektrokhimii Akademii nauk SSSR (Institute of Electrochemistry, AS USSR)
Fiziko-khimicheskiy institut im. L. Ya. Karpova
(Physico-Chemical Institute imeni L. Ya. Karpov)

Card 3/4

LYU SHOU-ZHUN [Liu Shou-jung]; BUDOV, G.M.; ZHDANKOVA, S.I.

Discharge of lanthanum ions on a mercury cathode. Zhur. fiz. khim.
34 no.8:1885-1886 Ag '60. (MIRA 13:9)

1. Akademiya nauk SSSR, Institut elektrokhemii.
(Lanthanum)

5.4600

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68167

SCV/20-129-6-34/69

AUTHORS: Budov, G. M., Losev, V. V.

TITLE: Investigation of the Electrode Processes¹ on Indium² Amalgam
by the Method of Radioactive Indicators

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 6, pp 1321-1324
(USSR)

ABSTRACT: The method mentioned in the title has already been employed by the authors when investigating the anode process of zinc amalgam (Refs 1, 2). In order to avoid the addition of a surface-active substance, which is necessary for the purpose of preventing concentration polarization, the authors chose indium amalgam for their investigation, because only a low exchange current occurs in the discharge of the indium ion. In¹¹⁴ was used for radiochemical measurements. The authors investigated the dependence of the rate i_a of the real anodic process on the potential at $20.0 \pm 0.01^\circ$ at an In-amalgam concentration of 0.002-0.9 M in solutions of 0.0004 - 0.03 M $\text{In}(\text{ClO}_4)_3 + 0.01 \text{ M}$ HClO_4 and additions of NaClO_4 for the purpose of keeping ion strength constant. As shown by figure 1, a linear dependence of

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Investigation of the Electrode Processes on Indium Amalgam by the Method of Radioactive Indicators

$\lg i$ on the potential was found to exist, where the straight line^a for the strength of the exchange current at equilibrium potential and different concentration of the In ions agrees with the rate of the anode process recorded at the same velocities. Figure 2 shows the dependence of i on the potential in the case of different amalgam concentrations. The curves of the anode process shift with increasing amalgam concentration in a negative direction, in which case, however, their inclination coefficient remains constant and corresponds to a transfer-coefficient $\beta = 2.20 \pm 0.07$. For the purpose of determining the latter, the measured dependence of the exchange current on the equilibrium potential at a varied amalgam concentration and constant concentration of In in the solution (Fig 3) was used. The value of α was determined with 0.21 ± 0.02 . On the basis of the linear dependence between the logarithm of the exchange current and the potential of amalgam at a constant concentration of $\text{In}(\text{ClO}_4)_3$, and as the sum $\alpha + \beta$ nearly equals 5, i.e. is

near the total number of electrons taking part in the electrode process, the authors conclude that among the conditions selected, the rate of the electrode process is determined by a stage

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Investigation of the Electrode Processes on Indium Amalgam by the Method of Radioactive Indicators

of the ionization and discharge of the In-ion. A simultaneous splitting-off of several electrons is improbable. In the dissolution of In on the anode, the three single-electron stages are therefore assumed: $\text{In} \rightarrow \text{In}^+ + e$; $\text{In}^+ \rightarrow \text{In}^{2+} + e$;

$\text{In}^{2+} \rightarrow \text{In}^{3+} + e$. It is proven that stage $\text{In}^{2+} \rightarrow \text{In}^{3+} + e$ is to be considered as limiting the rate of the process, because this case agrees with the experimentally found results. It is further mentioned that also in the process developing on the electrodes of the bivalent metals, the coefficients β and α have highly divergent values. The authors thank Academician A. N. Frumkin for his valuable advice. There are 3 figures and 10 references, 8 of which are Soviet.

ASSOCIATION: Institut elektrokhemii Akademii nauk SSSR (Institute of Electrochemistry of the Academy of Sciences, USSR). Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova (Scientific Research Institute for Physical Chemistry imeni L. Ya. Karpov)

PRESENTED: May 12, 1959, by A. N. Frumkin, Academician

SUBMITTED: April 28, 1959

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S/076/60/034/008/038/039/XX
B015/B063

AUTHORS: Lyu Shou-zhun, Budov, G. M., and Zhdanov, S. I.
TITLE: Discharge of Lanthanum Ions on a Mercury Cathode
PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 8,
pp. 1885-1886

TEXT: The explanations given in publications for the mechanism of ion discharge of multivalent elements, such as rare earths, are contradictory. Ref. 10 has shown that amalgams are obtained in high yields by electrolysis of aqueous solutions of rare-earth salts with strong complex-forming substances. The preparation of amalgams of these elements is difficult since these amalgams produce hydrogen from water on account of their high activity, and the salt is hydrolyzed. As the mercury phase plays the decisive role in these electrolytic processes, the presence of lanthanum in this phase during the electrolysis of aqueous solutions of lanthanum salts was studied by the method of tagged atoms and with the help of a mercury cathode. A method worked out for the measurement of the exchange current on amalgams (Ref. 10) was used to prepare amalgams and

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Discharge of Lanthanum Ions on a Mercury
Cathode

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determine their concentration. The electrolysis of lanthanum-chloride solutions tagged with La¹⁴⁰, which had different concentrations, was performed in the upper cell. Solution and mercury (cathode) were intermixed with pure nitrogen, the cathode potential being kept at - 2.1 v. After the threefold amount of current required for a complete precipitation of lanthanum, had been passed through, part of the mercury was conveyed into the lower cell without interrupting electrolysis. The mercury was treated with a 0.1 N HCl solution, after which the activity of the solution was measured. Results of measurement indicate that lanthanum amalgam is produced only in a small quantity (below 0.1% current yield). Thus, it has been proved that under the present conditions, lanthanum amalgam can be obtained in a very small quantity. Ya. P. Stradin' and L. K. Lepin' are mentioned. There are 11 references: 4 Soviet, 2 US, 2 German, 2 Czechoslovakian, and 1 British.

ASSOCIATION: Akademiya nauk SSSR Institut elektrokhimii
(Academy of Sciences USSR, Institute of Electrochemistry)

SUBMITTED: April 5, 1960

Card 2/2

BUDOV, G.M.; LOSEV, V.V.

Electrochemical dissolution and formation of amalgams on a stationary electrode. Zhur.prikl.khim. 34 no.10:2289-2295 0 '61.
(MIRA 14:11)

1. Institut elektrokhemii AN SSSR i Fiziko-khimicheskiy institut
imeni L.Ya.Karpova.
(Amalgams) (Electrochemistry)

BUDOV, G.M.; LOSEV, V.V.

Electrode processes on amalgams studied by means of radiochemical and electrochemical measurements. Zhur. fiz. khim. 37 no.6:1230-1235 Jé '63. (MIRA 16:7)

1. Institut elektrokhemii AN SSSR i Fiziko-khimicheskiy institut imeni L. Ya. Karpova.
(Electrodes) (Amalgams)

BUDOV, G.M.; LOSEV, V.V.

Electrode processes on amalgams studied by means of radio-chemical and electrochemical measurements. Part 2. Zhur. fiz. khim. 37 no.5:1023-1028 My '63. (MIRA 17:1)

1. Institut elektrokhimii AN SSSR i Fiziko-khimicheskiy institut imeni L.Ya. Karpova.

BUDOV, G.M.; LOSEV, V.V.

Radiochemical and electrochemical studies of electrode processes on
amalgams. Part 4. Zhur.fiz.khim. 37 no.7:1461-1466 J1 '63.
(MIRA 17:2)

1. Institut elektrokhimii AN SSSR i Fiziko-khimicheskiy institut imeni L.
Ya.Karpova, Moskva.

IOSEV, V. V.; BUDOV, G. M.

Study of electrode processes on amalgams by means of radiochemical and electrochemical measurements. Part 1. Zhur. fiz. khim. 37 no. 3:578-585 Mr '63. (MIRA 17:5)

1. Institut elektrokhemii AN SSSR i Fiziko-khimicheskiy institut imeni Karpova AN SSSR.

PRODAYVODA, N.Ye.; BUDOV, V.M.; SHAPOSHNIKOV, I.A.

Improved design of the working end. Stek.l ker. 19 no.5:28-29
My '62. (MIRA 15:5)

(Glass furnaces)

BUDOV, V.M.; SHAPOSHNIKOV, I.A.; LATUSHINA, E.S.

Increasing the productivity of the 4ShPS machines. Stek. i ker.
19 no.1:31-32 Ja '62. (MIRA 15:3)

1. Irbitskiy stekol'nyy zavod.
(Grinding and polishing)

BUDOV, V.M.; SHAPOSHNIKOV, I.A.

Improving the design of some units of the pot furnace. Stek.l
ker. 19 no.4:28-30 Ap '62. (MIRA 15:8)

1. Irbitskiy stekol'nyy zavod.
(Glass furnaces)

BUDOV, V.M.: DESKUTOV, Yu.V.

Structural changes in the working channel. Stek. i ker. 22 no.1:
8-10 Ja '65. (MIRA 18:7)

1. Glavnyy inzh. Salavatskogo zavoda tekhnicheskogo stekla (for
Budov). 2. Direktor Salavatskogo zavoda tekhnicheskogo stekla
(for Deskutov).

L 57489-65

ENP(e)/ENT(m)/ENP(i)/ENP(b)

Pq-4 WH

ACCESSION NR: AP5015764

UR/0072/65/000/006/0022/0025
666.15:548

AUTHOR: Solinov, F.G. (Candidate of technical sciences); Budov, V.M. (Engineer);
Kruchinin, Yu.D. (Candidate of technical sciences); Ignat'yeva, L.M. (Engineer);
TITLE: Effect of addition of fluorine and substitution of potassium oxide for sodium
oxide on the crystallization properties of sheet glass

SOURCE: Steklo i keramika, no. 6, 1965, 22-25

TOPIC TAGS: glass property, fluorine, potassium oxide, sodium oxide, glass
crystallization, glass conductivity, sheet glass

ABSTRACT: The initial glass used had the following composition (in %): 72.2 SiO₂, 1.6
Al₂O₃, 0.1 Fe₂O₃, 6.85 CaO, 4.05 MgO, 0.6 SO₃, and 14.6 Na₂O. Six groups of
glasses were prepared (59 compositions in all) in which the content of fluorine or that
of alkali oxides (K₂O and Na₂O) or both were varied, all other oxides being the same
as in the initial glass. The crystallizing tendency of the glasses was determined by the
gradient method. It was found that glasses containing both alkali oxides in certain
proportions had a higher crystallizing tendency, which was attributed to the neutraliza-
tion effect. Presence of the latter was confirmed by electrical conductivity curves.
The substitution of K₂O for Na₂O changes the packing density of the ions and the strength

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ACCESSION NR: AP5015764

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of the bonding between the ions and the silicon — oxygen skeleton. Glasses containing 2-4% K_2O had the lowest electrical conductivity, an increased crystallizing tendency, and were less stable chemically. Indeed, their bonds were weak, and thus the mobility of the ions carrying the current was higher (lower conductivity), the leaching loss was greater, and there was more opportunity for rearrangement of the ions to form a crystal lattice and thus make the crystallization easier. Hence, the conductivity curves provide some evidence on the crystallizing tendency of glasses. Orig. art. has: 2 figures.

ASSOCIATION: [Solinov] Institut stekla (Glass Institute); [Budov] Salavatskiy zavod tekhnicheskogo stekla (Salavat Commercial Glass Plant); [Kruchinin, Ignat'yeva] Ural'skiy politekhnicheskiy institut imeni S. M. Kirova (Ural'sk Polytechnic Institute)

SUBMITTED: 00

ENCL: 00

SUB CODE: MT

NO REF SOV: 006

OTHER: 000

dm
Card 2/2

BUDOV, V.M., inzh.; KRUCHININ, Yu.D., kand. tekhn. nauk; SOLINOV, F.G.,
kand. tekhn. nauk

Effect of fluorine additions and the replacement of sodium oxide
on the surface tension of sheet glass during forming. Steklo
ker. 22 no.10:12-14 O '65. (MIRA 18:12)

1. Salavatskiy zavod tekhnicheskogo stekla (for Budov). 2. Ural'skiy
nolitekhnicheskiy institut imeni Kirova (for Kruchinin).
3. Gosudarstvennyy nauchno-issledovatel'skiy institut stekla
(for Solinov).

S/078/60/005/009/013/017
B015/B064

AUTHORS: Voskresenskaya, N. K., Budova, G. P.
TITLE: Interaction of Nb_2O_5 With the Chlorides of the Alkaline and Alkaline-earth Metals

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 9, pp. 2051-2055

TEXT: The interaction of Nb_2O_5 with the chlorides of $\checkmark Li$, $\checkmark Na$, $\checkmark K$, $\checkmark Cs$, $\checkmark Ca$, and $\checkmark Ba$ was investigated by the method of isothermal dissolution (Ref. 2) in the nitrogen current at an experimental time of between one and five hours. The experiments were conducted in the ТГ-3 (TG-3) furnace, with the temperature being controlled with an electronic potentiometer of the type ЭПД-17 (EPD-17). Niobium was colorimetrically determined by a method developed by N. P. Alimarin and R. L. Podval'naya with a ФЭК-М (FEK-M) photocolrimeter. Nb_2O_5 was found (Table 1) to go over into the melt at $1000^{\circ}-1200^{\circ}C$, i.e., most intensively in $CaCl_2$, less in $BaCl_2$ and KCl , and

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Interaction of Nb_2O_5 With the Chlorides of the
Alkaline and Alkaline-earth Metals

S/078/60/005/009/013/017
B015/B064

least in NaCl . Nb_2O_5 dissolves at $700^\circ\text{--}900^\circ\text{C}$ only in the CaCl_2 melt. X-ray analyses of the solid phases obtained after reaction (after the removal of the salts with water) showed that no niobium pentoxide is present. The reaction with NaCl led to the formation of NaNbO_3 , or Na_3NbO_4 , as was proved by X-ray data (Table 2) in accordance with the data given by A. V. Lapitskiy and V. I. Spitsyn. NaNbO_3 and Na_3NbO_4 were found to be little soluble in NaCl . In conclusion, V. G. Kuznetsov is thanked for his assistance. There are 2 tables and 11 references: 7 Soviet, 3 US, and 1 French. ✓

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S.
Kurnakova Akademii nauk SSSR
(Institute of General and Inorganic Chemistry imeni N. S.
Kurnakov of the Academy of Sciences, USSR)

SUBMITTED: June 10, 1959

Card 2/2

BUDOVA, G.P.; VOSKRESENSKAYA, N.K.

Reaction of niobium pentoxide with molten salts of some oxy acids.
Zhur.neorg.khim. 6 no.6:1369-1374 Je '61. (MIRA 14:11)
(Niobium oxide) (Acids)

BUDOVALCEV, S.

"Permissible loads of express and passenger trains on gradients." (p.60).
ZELEZNICE. (Jugoslovenske zeleznice) Beograd. Vol. 10, no. 2, Feb. 1954

SO: East European Accessions List. Vol. 3, No. 8, August 1954

BUDVALCEV, S.

BUDVALCEV, S.

One of the highest basic speed on railroads. . . 212. (ZEMSKO, Vol. 10, no. 6, June 1954, Beograd, Yugoslavia)

SO: Monthly 1 st of East European Accessions, (SEAL), Lb, Vol. 4, no. 1 Jan. 1955, Uncl.

BUDOVARI, Ishtvan

Changes in ballistocardiograms of patients with mitral stenosis. Sov.
med. 23 no.8:43-49 Ag '59. (MIRA 12:12)

1. Ia gosptal'noy terapevticheskoy kliniki (dir. - prof. P.Ye.
Lukomskiy) II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova.
(MITRAL STENOSIS diagnosis)
(BALLISTOCARDIOGRAPHY)

BUDOVICH, B.; GAMBURG, R.; ZAKHARENKO, A.; NADEZHDA, K., obshchestvenitsa-pensionerka; NOVIK, I.; FIGUZOVA, N.; SMIRNOVA, I.; FOMITSKAYA, A., deputat Minskogo gorodskogo Soveta; BURMISTOVA, L.

Place nurseries and kindergartens under the control of women, Rabotnitsa 40 no.7:18-19 J1 '62. (MIRA 16:2)

1. Predsedatel' zhenskogo soveta stankostroitel'nogo zavoda imeni Oktyabr'skoy revolyutsii (for Budovich). 2. Predsedatel' zhenskogo soveta gomesl'skoy fabрики "Komintern" (for Gamburg). 3. Korrespondent gazety "Gomel'skaya pravda" (for Zakharenko). 4. Korrespondent zhurnala "Rabotnitsa i syalyanka" (for Piguzova, Smirnova). 5. Korrespondent zhurnala "Rabotnitsa" (for Burmistrova).
(White Russia—Nursery schools) (White Russia—Kindergartens)

BUDOVNICH, Ye.Ye.

Malignant exophthalmos of endocrine origin and its therapy.
Zdrav. Kazakh. 22 no.9:11-14 '62. (MIRA 17:2)

1. Iz 1-y Ust'-Kamenogorskoy gorodskoy bol'nitsy (glavnyy
vrach - N.K. Kozhushko).

BUDOWNITS, R.A.

Agglutination reaction with capillary and venous blood in brucellosis.
Sovet. med. 17 no.4:36-37 Apr 1953. (CIML 24:4)

1. Of Omsk Oblast Clinical Hospital (Head Physician -- I. R. Sokol'skiy;
Head of Faculty Therapeutic Clinic -- Prof. R. M. Akhrem-Akhremovich).

ISADSOO 167

БЕЛОВ, Г.С., kandidat ekonomicheskikh nauk.

Planning drilling operations. Trudy TSIMnefti no.1:82-106 '54.

(MIRA 12:9)

(Oil well drilling)

BUDOVY, G. T.

BUDOVY, G.T., kandidat ekonomicheskikh nauk.

~~Overall planning of the production and management of offices in~~
charge of major well repair. Trudy TSIMTnefti no.1:107-131 '54.

(MLRA 10:9)

(Oil wells--Repairing)

BUDOVY, G. T.

AID P - 487

Subject : USSR/Mining

Card 1/2 Pub. 78 - 1/27

Authors : Budovoy, G. T. and Brents, A. D.

Title : Important Problems in Economy and Planning of the Petroleum Industries

Periodical : Neft. Khoz., v. 32, #6, 1-8, Ju 1954

Abstract : The All-Union Conference on Problems of Economic Improvement in Petroleum Industrial Plants is reviewed, particularly in relation to planning accounting, analysis of work, economical consumption of materials, reagents, fuel, power, machinery and general equipment. The discussion was extended to the defects and shortcomings existing in the searching prospecting, and development of oil and gas reserves. The corrective recommendations were issued for general works, as well as for the planning and organizing of the work of repair brigades. The correct scientific methods in analytical work are discussed and recommended for employment, in view of the need to use all possibilities for high production of gas and oil.

Neft. Khoz., v. 32, #6, 1-8, Ju 1954

AID P - 487

Card 2/2 Pub. 78 - 1/27

Institutions: All-Union Scientific Research Institute (VNII); Central Scientific Research Institute of Mechanization and Organization of Labor in the Petroleum Industry (TsIMT Neft); Technical Soviet of the Ministry of the Petroleum Industry. All-Union Scientific Society of Engineers and Technicians (VNITO).

Submitted : No date

BUDOVY, Grigoriy Timofeyevich; NIKOLAYEVSKIY, N.M., redaktor; SOKOLOV,
P.D., redaktor; LOZBYAKOVA, Ye.S., vedushchiy redaktor; POLCSINA,
A.S., tekhnicheskii redaktor

[Manual for carrying out the technical, industrial and financial
plan for petroleum enterprises] Posobie po razrabotke tekhpromfin-
plana nefte dobyvayushchego predpriyatiya. Moskva, Gos. nauchno-tekhn.
izd-vo nefteyanoy i gorno-toplivnoy lit-ry, 1955. 136 p. (MIRA 9:9)
(Petroleum industry)

REZNIK, Anatoliy Abramovich; RUDOVYX, G.T., kandidat ekonomicheskikh nauk, retsenzent; BRENNER, M.M., redaktor; ZAMARAYEVA, K.M., vedushchiy redaktor; POLOSINA, A.S., tekhnicheskii redaktor

[Principles of economic analysis of petroleum industries and boring enterprises] Osnovy ekonomicheskogo analiza raboty neftepromysla i kontory bureniia. Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1957. 176 p. (MLRA 10:3)
(Petroleum industry--Accounting)
(Oil well drilling--Accounting)

Sov/92-58-6-3/30

AUTHOR: Budovoy, G.T., Staff Member of the TsNITEneft'

TITLE: Problems of Automation in Drilling (Voprosy avtomatizatsii v bureni)

PERIODICAL: Neftyanik, 1958, Nr 6, pp 3-4 (USSR)

ABSTRACT: During the Sixth Five-Year-Plan, the footage to be drilled will have to be almost doubled as compared with that drilled in 1957. For that reason, the organization of petroleum production must be substantially improved, and drilling operations must be automated and mechanized. Particular attention should be paid to the mechanization of auxiliary operations in which 75 percent of the petroleum production workmen are engaged. The author shows the percentage of workmen engaged in different categories of petroleum production operations. Pneumatic control over the operation of rigs, automatic bit feeding, and mechanization of tool sinking and lifting operations have been introduced in recent years. Computation and logging machines are also being introduced at present, and they are being adapted to exercise control of technological processes. However, various instruments and automatic regulators, manufactured at present, are obsolete, and the progress made in developing new instruments is rather slow. Instead of advancing drill bits manually, they are advanced now by the BAR-150 and MPD-1 automatic devices which regulate the bit feed in the drilling process performed at maximum speed. Such devices are used, however, in rotary drilling only. For turbo-drilling these devices are being studied, and are not yet in use. At the same time speed drilling has increased the importance of

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Problems of Automation in Drilling

Sov/92-58-6-5/30

tool sinking and lifting operations, and newly developed devices have made it possible to carry out these operations faster. The introduction of complex machinery will permit the country to save about 200 million rubles in 1960. In addition to such machinery, many different types of auxiliary tools, such as pneumatic and electrically driven wrenches are being introduced to connect and disconnect drilling pipes. Furthermore, the process of preparing the cement slurry is also being mechanized. In oilwell drilling the determination of tool weight, the weight on the bit, and the pressure, viscosity and specific gravity of the drilling fluid are very important. In addition to instruments such as manometers, viscosimeters, hydraulic indicators, mud filtration tracers, etc., which are now used in the USSR and abroad, a number of new automatic controlling and gaging instruments have recently been developed. The construction of automatic bit feed devices, the automation of sinking and lifting operations, the entire mechanization of cementing operations, and of transportation, and the preparation of drilling fluids represent problems which should be solved without delay in order to increase drilling rates, reduce drilling costs, and facilitate the task of drillers.

ASSOCIATION: TsNITEneft'

Card 2/2 1. Petroleum—Production 2. Drilling machines—Equipment
 3. Drilling machines—Control systems 4. Instruments—Design

~~BUDOVY, G.T.~~; MARTINKOV, I.P.; SHKOL'NIKOV, B.Ya.; GRIGOR'YEV, Ye.A.;
SOLOMIN, V.V.; REZNIK, A.I.; IGNATOVICH, A.A.; OZORNOV, A.K.;
GILINSKOY, E.B.; ZHIRNOV, V.Ye.; NEMENSKIY, M.I.; VOLKOV, N.I.,
red.; VOSKANYAN, G.G., red.; KASIMOVSKIY, Ye.V., red.; FOMIN,
A.Ya., red.; LISOV, V.Ye., red.; PONOMAREVA, A.A., tekhn. red.

[The district worker's manual; reference and methodological aid
for economic and cultural planning in an administrative dis-
trict] Spravochnik raionnogo rabotnika; spravochno-metodiche-
skoe posobie po planirovaniu khoziaistvennogo i kul'turnogo
stroitel'stva v administrativnom raione. Moskva, Ekonomizdat,
1962. 439 p. (MIRA 15:7)

(Russia--Economic policy--Handbooks, manuals, etc.)

L 1155-66 EWT(m)/EPF(c)/ENP(j)/T RM

ACCESSION NR: AP5022006

UR/0286/65/000/014/0077/0077

678.744.002.2

AUTHOR: Rostovskiy, Ye. N.; De-Millo, L. Ye.; Budovskaya, L. D.; Arbuzova, I. A.

TITLE: A method for producing polyvinyl alcohol. 7 Class 39, No. 172991 15

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1965, 77

TOPIC TAGS: polyvinyl alcohol, redox reaction, polymerization initiator

ABSTRACT: This Author's Certificate introduces a method for producing polyvinyl alcohol by bulk polymerization of vinyl formate under the action of initiators and then washing the resultant polymer in a water-alcohol solution of an alkali. The properties of the product are improved by using an organic peroxide- α -aminosulfonetertertiary amine redox system as the process initiator.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute of High Molecular Compounds, AN SSSR)

SUBMITTED: 16May63

NO REF SOV: 000

ENCL: 00

OTHER: 000

SUB CODE: HT,CC

Card 1/1 DP

L 7878-66 EWT(m)/EPF(c)/EWP(j)/T RPL WW/RM
 ACC NR: AP5025031 SOURCE CODE: UR/0286/65/000/016/0083/0083
 AUTHORS: Rostovskiy, Ye. N.; Budovskaya, L. D.; Shefer, I. A.
 ORG: none
 TITLE: Method for obtaining copolymers on the basis of styrene. Class 39,
 No. 173943 [announced by Institute for High Molecular Compounds, AN SSSR (Institut
 vysokomolekulyarnykh soyedineniy AN SSSR)]
 SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 83
 TOPIC TAGS: copolymer, copolymerization styrene, vinylformate, copolymerization
 ABSTRACT: This Author Certificate presents a method for obtaining copolymers on
 the basis of styrene. To increase the variety of polymer materials, a radical
 copolymerization is carried out between styrene and vinylformate. This is
 followed by esterification of the obtained copolymer.
 SUB CODE: 07/ SUBM DATE: 03Oct64
 nw
 Card 1/1 UDC: 678.746.22-134.472.002.2

BUDOVICH. Makar Danilovich [Budovych, M.D.]; DEGTYAR, Grigoriy
Andreyevich [Dehtiar, H.A.]; ZDAYEVSKIY, Petr Petrovich
[Zdaievs'kyi, P.P.]; TURBINA, I.D., red.

[Experimental and training work in rabbit raising in school]
Navchal'no-doslidna robota z krolivnytstva v shkoli. Kyiv,
Radians'ka shkola, 1963. 87 p. (MIRA 17:4)

L 62827-65 EWT(m) JAJ/RM

ACCESSION NR: AP5019049

UR/0286/65/000/012/0076/0076
678.744.72.002.2

AUTHOR: Rostovskiy, Ye. N.; Budovskaya, L. D.; Yegorova, A. V.

TITLE: A method for producing a polyvinyl alcohol which is not water soluble.
Class 39, No. 172041

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 76

TOPIC TAGS: polymer, polyvinyl alcohol, bulk polymerization

ABSTRACT: This Author's Certificate introduces a method for producing a polyvinyl alcohol which is insoluble in water. Vinyl esters of ω -hydroperfluorocarboxylic acids are bulk polymerized in the presence of an oxidation-reduction system: benzoyl peroxide + N-ethanolbis-(paratolylsulfonmethyl)-aminedimethylaniline as an initiator. The resulting polymer is washed in a homogeneous medium with an alcohol solution of an alkali.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute of High Molecular Compounds, AN SSSR)

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I 62827-65

ACCESSION NR: AP5019049

SUBMITTED: 13Dec63

ENCL: 00

SUB CODE: MT, 5C

NO REF SOV: 000

OTHER: 000

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Card 2/2

DMITRIYEVA, S.A.; BUDOVSKAYA, L.N.; SILINA, L.I.; MARICHEVA, L.I.; OSIPOVA, T.A.; SHRAYBER, Ya.L.; PETRUN'KINA, A.M.

Excretion of nicotinic acid derivatives in the urine of patients with neuroses and cyclothym. Zhur.nevr.i psikh. 61 no.10:1520-1524 '61. (MIRA 15:11)

1. Gruppa po izucheniy biokhimii pitaniya Instituta fiziologii AN SSSR imeni I.P.Pavlova i Psikhonevrologicheskaya bol'nitsa Sverdlovskogo rayona, Leningrad.
(NICOTINIC ACID) (MANIC-DEPRESSIVE PSYCHOSES) (NEUROSES)

BUZOVSKIY, I.I.; DEMUSKIN, V.I.

Separation of oligonucleotides. Biokhimiya 29 no.6:1063-1069
R-9 '64. (MIRA 13:11)

I. Institut khimii prirodnkh soed.neniy AN SSSR, Moskva.
Submitted March 5, 1964.

BUDOVSKIY, E.I.

ARENDAK, A.P.; BUDOVSKIY, E.I.; GOTTIKH, B.P.; KARPEYSKIY, M.Ya.
KUDRYASHOV, E.I.; SKOLDINOV, A.P.; SMIRNOVA, N.V.; KHORLIN, A.Ya.
KOCHETKOV, N.K.

Dihydrosarcomycin and related compounds. Part.1: Zhur.ob.khim.
27 no.5:1312-1318 My '57. (MLRA 10:8)

1.Institut farmakologii i khimioterapii Akademii meditsinskikh
nauk SSSR.

(Antibiotics)

AUTHORS: Kochetkov, N. K., Khomutov, R. M., SOV/79-28-11-25/55
Karpeyskiy, M. Ya., Dudovskiy, E. I.

TITLE: Cycloserine and Related Compounds (Tsikloserin i
rodstvennyye soyedineniya) III. On the Synthesis of
Cycloserine (III. **O sinteze** tsikloserina)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 11,
pp 3013 - 3019 (USSR)

ABSTRACT: Lately, the authors had reported on a new synthesis
of the antibiotic cycloserine, the d-4-amino isooxazoli-
done-3, from an accessible ester of the α, β -di-
chloro propionic acid and acetoxime (Ref 2). As
further chemical and clinical investigations (Refs
3,4) proved its high antitubercular activity this
synthesis was investigated in detail. All other
scientists have hitherto proceeded from the weakly
accessible amino acid of serine. The synthesis of
the authors took place according to the mentioned
scheme 1, with methacrylate serving as initial sub-
stance. The condensation of the methyl- α, β -di-
chloro propionate (I) with acetoxime seems to be the

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Cycloserine and Related Compounds. III. On the Synthesis SOV/79-28-11-25/55
of Cycloserine

bottleneck of this synthesis. The difficulties are due to the fact that a selective substitution of the β -halogen atom must be carried out. The reaction (I) with acetoxime was investigated with different solvents at different temperatures and at different ratios of the reacting compounds. The condensation (I) with the oxime supplied the best results in the presence of sodium methylate in methanol at 0-5° (yield of compound (II): 25-30%). Besides (II) also the α -chloro β -methoxypropionate (20%), and apparently also the methyl- α -chloro-acrylate were obtained. Of the two possible reaction processes the one with the previous separation of hydrogen halide with the subsequent affiliation of the formed α -halogen acrylate to the double bond was selected. In the amination the ester was first transformed with alkali liquor into the acid (III), which then was subjected to the amination. After longer experiments the amination was carried out with excess liquid ammonia on heating under the formation of (IV).

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Cycloserine and Related Compounds. III. On the Synthesis SOV/79-28-11-25/55
of Cycloserine

This acid (IV) was separated in form of the chlorine hydrate, which further on served as the main product of the synthesis of dichloro hydrate (V). The acid hydrolysis was used (Scheme 2) for the selection of a secure and convenient transition from (IV) to (V) under various conditions. It was found that the synthesis of (V) is most convenient from (VI); it may, however, also be carried out directly from (IV) or (VIII). In the last stage it was possible to increase the yield in the cyclization of the dichlorine hydrate (V) to the cycloserine from 65 to 82%, with the product already separated in analytically pure state from the reaction mixture. Compared to earlier syntheses of cycloserine the one mentioned here offers a better yield and avoids the use of resinous compounds (Refs 5,10). The racemate of cycloserine showed a high activity against infections of all types. There are 11 references, 3 of which are Soviet.

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Cycloserine and Related Compounds. III. On the Synthesis SOV/79-26-11-25/55
of Cycloserine

ASSOCIATION: Nauchno-issledovatel'skiy institut farmakologii i
khimioterapii Akademii meditsinskikh nauk SSSR
(Scientific Research Institute of Pharmacology and
Chemotherapy of the Academy of Medical Sciences, USSR)

SUBMITTED: October 20, 1957

Card 4/4

BUDOVSKIY, E. I., Candidate Chem Sci (diss) -- "The synthesis and transformation of α -acylaminoacrylic hydroxamic acids". Moscow, 1959. 8 pp (Acad Sci USSR, Inst of Organic Chem im N. D. Zelinskiy), 110 copies (KL, No 24, 1959, 128)

AUTHORS: Kochetkov, N. K., Budovskiy, E. I., SOV/79-29-1-16/74
Khomutov, R. M., and Karpeyskiy, M. Ya.

TITLE: Cycloserine and Related Compounds (Tsikloserin i rodstvennyye
soyedineniya)
IV. α -Benzoyl-Amino Acrylic Hydroxamide Acids (IV. α -Benzoil-
aminoakrilgidroksamovyye kisloty)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 1, pp 68-75 (USSR)

ABSTRACT: In the search for methods of synthesizing the recently discovered antibiotic cycloserine and related compounds the authors believed it would be of advantage to extend their investigations to several hydroxamide acids having an acyl amino group in the α -position. Further reactions with this group brought about a new way of synthesizing cycloserine analogues. The present paper deals with the synthesis of β -substituted α -benzoyl-amino acrylic hydroxamide acids. The most favorable synthesis of those compounds was the reaction of azolactone with hydroxyl amine. Shaw and McDowell (Ref 4) succeeded in opening azolactone by reaction of 2-phenyl-4-benzylidene oxazolone (Ia) with free hydroxyl amine in methanol. This reaction, was, however, accompanied by

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IV. α -Benzoyl-Amino Acrylic Hydroxamide Acids

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side-reactions so that the yield in α -benzoyl-amino- β -phenyl-acrylic hydroxamide acid (IIa) amounted only to 50 %. Apart from this acid α -benzoyl-amino- β -phenyl- β -oxyamino propionic acid was separated (25 %). Here, the reaction was carried out under varying conditions. Of essential importance in this connection the optimum percentage of the medium, which is not allowed to exceed 5-6.5, as otherwise complications would arise. Thus, a general synthesis of β -aryl- α -benzoyl-amino acrylic hydroxamide acids was worked out by reaction of 2-phenyl-4-arylidene oxazolones with acetic hydroxyl amine in methanol (5-6.5 %!). (Yields 70-90 %) which is also applicable to the synthesis of β -alkyl- α -benzoyl-amino acrylic hydroxamide acids. By catalytic hydrogenation of β -aryl- α -benzoyl-amino acrylic hydroxamide acids the α -benzoyl- β -aryl alanine hydroxamide acids were obtained. The structure of the synthesized compounds was proved by hydrolysis up to the α -benzoyl- β -aryl alanines. There are 1 figure, 3 tables, and 16 references, 4 of which are Soviet.

Card 2/3

Inst. farmakologii i khimioterapii, Ak. Meditsinskikh nauk SSSR

AUTHORS: Kochetkov, N. K., Budovskiy, E. I., 30V/79-29-2-59/71
Khomutov, R. M., Karpeyskiy, M. M.

TITLE: Cycloserine and Related Compounds (Tsikloserin i rodstvennyye soyedineniya). V. Cyclization of α -Benzoylamino- β -Arylacryl Hydroxamic Acids (V. Tsiklizatsiya α -benzoilamino- β -arilakril-gidroksamovyykh kislot)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 635-642 (USSR)

ABSTRACT: On reacting hydroxamic acids (I) with HCl and HBr the corresponding hydroxamic acids (II) could be expected to form, leading to compounds (III) by the action of alkali lyes. As is known, however, compounds (I) may cyclize in another manner with hydrochloric acid, i.e. under formation of compounds (IV) (Scheme 1). The latter possibility (way B) was carried out according to reference 2, on the cyclization of α -benzoylamino- β -phenyl and α -benzoylamino- β -n-methoxy phenylacryl hydroxamic acid into the corresponding imidazolidone (IV), in a 50 and 16 % yield. The authors therefore closely investigated the cyclization of α -benzoylamino- β -arylacryl hydroxamic acids in order to determine the influence of the substituent in the aromatic nucleus upon the direction (A) or (B). On treating these

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Cycloserine and Related Compounds. V. Cyclization
of α -Benzoylamino- β -Arylacryl Hydroxamic Acids

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compounds with HCl or HBr in methanol, dioxan, acetic acid and within a wide temperature range (from -50° to $+100^{\circ}$) a slight cyclization, almost quantitative, was observed, under formation of imidazolinolone (IV), whereas the formation of affiliation products of hydrogen halides of the type (II) was in no case observed. Thus it became evident that the reaction for (I), regardless of the character of the substituents in the nucleus, proceeds in the direction (B). The synthesis was worked out of 2-phenyl-5-arylidene imidazoline- $\Delta^{1,2}$ -ol-3-one-4 (IV) by the cyclization of β -aryl- α -benzoylamino acryl hydroxamic acids with hydrogen halide in alcoholic or acetic acid solution (73 % to quantitative yields). The compounds obtained develop a high bacterial activity, in which connection the substitution of the N-hydroxyl group in them by the methoxy group or the hydrogen atom causes the activity to disappear. There are 3 figures, 1 table, and 10 references, 2 of which are Soviet.

Card 2/3 *Inst. Pharmacology & Chemotherapy, AMS USSR*

AUTHORS: Khomutov, R. M., Karpeyskiy, M. Ya., SOV/79-29-2-60/71
Severin, Ye. S., Budovskiy, E. I., Kochetkov, N. K.

TITLE: Cycloserine and Related Compounds (Tsikloserin i rodstvennyye soyedineniya). VI. Synthesis of Cycloserine Analogues With a Substituted Amino Group (VI. Sintez analogov tsikloserina s zameshchennoy aminogruppoy)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 642-650 (USSR)

ABSTRACT: To investigate the relation between structure and chemotherapeutical activity in the lately discovered 4-aminoisoxazolidone-3-derivatives, the authors applied their earlier worked out method (Refs 1,2) to the synthesis of cycloserine analogues with a substituted amino group. In the course of this work, F. Šorm and collaborators (Ref 3) published a different synthesis of two representatives of this series. The synthesis of the above-mentioned analogues of cycloserine took place according to scheme 1. Other ways to form compounds (II) meet with difficulties. α -chloro- β -isopropylidene aminoxy propionic acid (I), one of the intermediate products in the synthesis of cycloserine (Ref 2) served as initial product. On the reaction of compound (I) with various amines in aqueous and alcohol

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Cycloserine and Related Compounds. VI. Synthesis of SOV/79-29-2-60/71
Cycloserine Analogues With a Substituted Amino Group

solutions no alanine derivatives (II) were found in the reaction mixture, contrarily to the case in which inert solvents are used and also in case the reaction takes place without solvent with an excess of amine. The amination of (I) was carried out with methyl amine, β -phenyl ethyl amine, benzyl amine, piperidine and morpholine, which were all taken in excess to the initial chloric acid. The result in the crystalline state was α -methyl amino, α -benzyl amino, α -phenyl ethyl amino, α -piperidyl- β -isopropylidene amino oxy-propionic acid, with the specified radical values, in yields of 25-70 %. No pure crystalline product was obtained with morpholine. The next stage was the transition of (II) to the dichloro hydrates of esters (III), which was carried out with a mixture of hydrochloric acid and alcohol, with subsequent esterification. They were partly obtained in the crystalline and partly in the non-crystalline state. For the synthesis of other analogues of cycloserine (IV) the oily dichloro hydrates were used, which were not obtained in crystalline state. It was shown that the substitution in the amino group of cycloserine completely stops its chemotherapeutical activity. The above-described

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cyclization of the N-substituted substances of β -chloro alanine hydroxamic acids into the derivatives of 4-aminoisooxazolidone-3 is preferable to the other schemes suggested by the other authors. There are 3 references, 2 of which are Soviet.

ASSOCIATION: Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR (Institute of Pharmacology and Chemotherapy of the Academy of Medical Sciences, USSR)

SUBMITTED: December 17, 1957

Card 3/3

5 (3)
AUTHORS:

Kucherova, N. F., Khomutov, R. M., SOV/79-29-3-34/51
Budovskiy, E. I., Yevdakov, V. P., Kochetkov, N. K.

TITLE: Synthesis of the Thioamide of the 2-Ethylisonicotinic Acid
(Sintez tioamida 2-etilizcnikotinovoy kisloty)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 3, pp 915-919 (USSR)

ABSTRACT: Recently the high chemotherapeutic activity of the thioamides of some heterocyclic acids was reported, in particular of the thioamide of the 2-ethylisonicotinic acid (Ref 1). This thioamide exceeds by its efficacy many other tuberculostatica against mycobacterium tuberculosis. The synthesis of the thioamide of 2-ethylisonicotinic acid described in publications (Ref 2) is too complicated (of several steps) and not suitable for a large-scale production. In the present paper a simpler synthesis of this thioamide according to the given scheme is described. The initial ethyl pyridine (I) synthesized according to reference 3 was oxidized with peracetic acid to give the N-oxide (II) which was transformed by nitration into compound (III). In the reduction of (III) the 2-ethyl-4-aminopyridine (IV) (90% yield) was formed. The bromide (V) was obtained by

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treating the perbromide of (IV) with sodium nitrite in concentrated hydrobromic acid (Ref 4). This reaction proceeded smoothly and gave a high yield in (V). For the transformation of (V) into the nitrile the former was heated with copper cyanide. The complex compound initially formed was decomposed by ammonia into compound (VI) (Yield 70%). The last step of the synthesis was the transformation of the nitrile (VI) into the thioamide of the 2-ethylisonicotinic acid (VII) which was obtained in crystalline form in high yield by the saturation of the solution (VI) in pyridine with hydrogen disulfide in the presence of triethylamine. In saltless state it is slightly soluble in water. There are 6 references, 1 of which is Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut farmakologii i khimioterapii
(Scientific Research Institute of Pharmacology and
Chemotherapy)

SUBMITTED: February 4, 1958

Card 2/2

5 (3)

AUTHORS:

Khomutov, R. M., Karpeyskiy, M. Ye.,
Budovskiy, E. I., Severin, Ye. S.,
Kochetkov, N. K.

SOV/79-29-4-62/77

TITLE:

Cycloserine and Related Compounds (Tsikloserin i rodstvennyye
soyedineniya). VII. Synthesis of 5-Methyl-4-Aminoisoxazolidone-3
(Cyclotreonine) [VII. Sintez 5-metil-4-aminoizoksazolidona-3
(tsiklotreonina)]

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1328 - 1333
(USSR)

ABSTRACT:

In the present paper the synthesis of the 5-methyl-4-aminoisoxazolidone-3 (cyclotreonine) is described. The reason for this choice was the authors' desire to use the method earlier worked out by them (Refs 1,2) for the synthesis of the 5-substituted homologues of cycloserine, and since the latter is genetically related to the vital amino acid-treonine. This fact permits the assumption that cyclotreonine is as well biologically active. When this investigation was finished a report was published (Refs 4,5) on the synthesis of cyclotreonine from treonine over the corresponding hydroxamic acid. The synthesis of cyclotreonine (VI) carried out by the authors is illustrated by scheme 1. The

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initial product (I) was obtained by the chlorination of methyl crotonate in methanol at 10-15° (70-80% yield), contrary to the complicated prescriptions in the publications. The condensation of (I) with the sodium derivative of acetoxime (Ref 2) led to the ester (II) which was saponified into the acid (III). Compound (III) yielded the amino acid (IV) (50%) with excess liquid ammonia at 45-50° within 8-10 hours. The hydrogenation reaction

$$\begin{array}{c} \text{CH}_3 \\ \diagup \\ \text{C} = \text{N-O-} \\ \diagdown \\ \text{CH}_3 \end{array}$$
 was used for the determination of their structure,

since it proceeds without contact with the asymmetrical β -carbon atom (Scheme 2). This way is a new method for the determination of the structure of the α -amino- β -isopropylidenaminooxy acids. The result of the reaction was the separation (87%) and the identification of the d,1-allotreonine which points out that (IV) belongs to the erythro series. The next stage was the transition of the amino acid (IV) to the compound (V) (50-60%). The last stage consisted in the cyclization of the dichloro hydrate (V) into the cyclotreonine (VI) by a caustic potash solution in

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methanol solution (80-85%). Since the structure is not changed by the cyclization the formula *cis*-3,1-5-methyl-4-aminoisoxazolidone-3 can be ascribed to the cyclotreonine. The structure is also confirmed by the data of the infrared spectrum. Its similarity was determined by means of the paper chromatography. Cyclotreonine has a distinctly marked antitubercular activity. There are 1 figure and 5 references, 3 of which are Soviet.

SUBMITTED: February 10, 1958

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17(4)

SOV/20-126-5-62/69

AUTHORS:

Kochetkov, N. K., Khomutov, R. M., Karpeyskiy, M. Ya.,
Budovskiy, E. I., Severin, Ye. S.

TITLE:

The Mechanism of the Antibiotic Effect of Cycloserine (O
mekhanizme antibioticheskogo deystviya tsikloserina)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 5, pp 1132-1134
(USSR)

ABSTRACT:

The cycloserine was paid attention to since its discovery (1955, Ref 1) on the one hand as high effective antituberculous agent, on the other hand as an interesting and suitable object to study the dependence of the biological effect on the structure. In the institute mentioned in the Association for some years a multiple-purpose study of the cycloserine (d-4-amino-isooxazolidone-3) and related compounds has been carried out. Methods of production of several compounds of this series were elaborated, and cycloserine itself was synthesized. It is not only of interest because of its relative simple structure but also because of its unusual complex of properties by which it differs from other known antibiotics. In spite of many papers the theme mentioned in the title was not dealt with (Ref 4).

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Data now already available allow the first considerations. It may be supposed that the essential part of the antimicrobial activity of the cycloserine is its influence on the nitrogen metabolism of the micro-organisms. The paper is dedicated to the discussion of the probable nature of this influence in connection with the hypothesis of the biochemical effect of cycloserine proposed by the authors. Cycloserine reacts easily with aromatic aldehydes (datas of this reaction are published separately) and forms instable azomethine derivatives (Schiff's bases). They transform quickly into isomeric, stable compounds under mild conditions. The azomethine derivatives have a weak antimicrobial effect. Cycloserine analogues with substituted amino group and such without amino group are completely inactive. The racemate of the antibiotic is not inferior to the natural d-isomer in relation to activity but it even surpasses the latter sometimes in this regard. This cannot be explained till now. (The said activity of the single substances was investigated under the direction of Prof. A. M. Chernukha by M. A. Breger, I. R. Balyn', V. P. Zuyeva, G. A. Ivanova, N. A. Kalinina, G. Ya. Kivman, V. S. Mitrofanov, E. G. Rukhadze, V. N. Solov'yev, N. M. Smol'nikova, and N. V. Chumachenko in

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the chemotherapy department.) The authors suppose that the suppression of the AIKA-Biosynthesis is one of the most important manifestations of the antibiotic activity of cycloserine (Ref 5). If this is right then the cycloserine must influence the transamination reaction suppressingly. Actually experiments made by Ye. D. Vyshepan and K. I. Ivanova on the request of the authors have shown that cycloserine completely inhibits the enzymatic transamination in the system pyruvic acid - glutaric acid in concentrations corresponding to the bacteriostatic one (5-10 γ /ml). The original action of the inhibition mechanism is the formation of the azomethine derivative by means of enzyme coferments catalyzing the transamination with the pyridoxal phosphate. The resulting Schiff's base must become a compound which cannot decompose again. Possible ways of such a stabilization are indicated. By the said original action the synthesis of the aspartic and glutamic acid and of the glycine is suppressed. The disturbance of the biosynthesis of the specific nucleoproteids caused thereby is for example lethal for *Microbacterium tuberculosis* at which they are the main part of its proteins (Ref 9). The datas given here are in line with the existing datas concerning the activity of the analogues of this anti-

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biotic (Refs 7,10). The estimation does not enclose all the cycloserine action but only part of it. The salts being formed easily by cycloserine and its azomethine derivatives with heavy metals can be toxic for the micro organisms or they can withdraw trace elements (Fe, Cu, Zn, Mg) out of the sphere of the micro-organisms. There are 10 references, 4 of which are Soviet.

ASSOCIATION: Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR (Institute of Pharmacology and Chemotherapy of the Academy of Medical Sciences, USSR)

PRESENTED: March 12, 1959, by A. N. Nesmeyanov, Academician

SUBMITTED: March 12, 1959

Card 4/4

KLABUNOVSKIY, Yevgeniy Ivanovich; BUDOVSKIY, E.I., red.; SHPAK, Ye.G.,
tekh.red.

[Asymmetrical synthesis] Asimmetricheskii sintez. Moskva, Gos.
nauchno-tekhn.izd-vo khim.lit-ry, 1960. 229 p.

(Chemistry, Organic--Synthesis)

(MIRA 13:5)

KOCHETKOV, N.K.; LIKHOSHERSTOV, A.M.; BUDOVSKIY, E.I.

Pyrrolizidine of alkaloids. Part 1: Synthesis of 1-hydroxy-methylpyrrolizidine (*dl*-trachelanthamidine). Zhur.ob.khim. 30 no.6:2077-2082 Je '60. (MIRA 13:6)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.

(Trachelanthamidine)

BUDOVSKIY, E.I.; KHOMUTOV, R.M.; KARPEYSKIY, M.Ya.; SEVERIN, Ye.S.;
KOCHETKOV, N.K.

Some substituted 2-aryl-5-arylidene- $\Delta^{1,2}$ -imidazolin-4-ones. Zhur.
ob.khim. 30 no.8:2569-2573 Ag '60. (MIRA 13:8)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh
nauk SSSR.
(Imidazolinone)

KOCHETKOV, N.K.; BUDOVSKIY, E.I.; KHOMUTOV, R.M.; KARPEYSKIY, M.Ya.;
SEVERIN, Ye.S.

Stereochemistry of azlactones. Zhur.ob.khim. 30 no.8:2573-2578
Ag '60. (MIRA 13:8)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh
nauk SSSR.
(Azlactones)

GHZAN GHZI-PIN [Chang Chih-p'ing], KHOMUTOV, R.M.; BUDOVSKIY, E.I.;
KOCHETKOV, N.K.

Cycloserine and related compounds. Part 12: 4-Sulfanilamido-
3-isoxazolidone (sulfacycloserine). Zhur. ob. khim. 31 no.3:1011-
1015 Mr '61. (MIRA 14:3)

1. Nauchno-issledovatel'skiy institut farmakologii i khimioterapii.
(Isoxazolidinone)

BUDOVSKIY, E.I.; CHZHAN CHZHI-PIN [Chang Chih-p'ing]; KOCHETKOV, N.K.

Cycloserine and related compounds. Part 13: Some 4-amino-3-pyrazolidones. Zhur. ob. khim. 31 no.4:1297-1303 Ap '61.

(MIRA 14:4)
1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.

(Pyrazolidinone)

KOCHETKOV, N.K.; BUDOVSKIY, E.I.; CHZHAN CHZHI-PIN [Chang Chih-p'ing]

Cycloserine and related compounds. Part 14: 4-amino-3-pyrazolidinone
(azacycloserine). Zhur.ob.khim. 31 no.10:3292-3298 0 '61.

(MIRA 14:10)

(Pyrazolidinone)

KOCHETKOV, N.K.; BUDOVSKIY, E.I.; SHIBAYEV, V.N.

Analogs of coenzymes of carbohydrate metabolism. Report No.1:
Synthesis of 3-N-methyluridine diphosphate glucose. Izv.AN
SSSR.Otd.khim.nauk no.6:1035-1041 '62. (MIRA 15:8)

1. Institut khimii prirodnnykh soyedineniy AN SSSR.
(Uridine phosphate) (Coenzymes)

BUDOVSKIY, E.I.; SHIBAYEV, V.N.; YELISEYEVA, G.I.; KOCHETKOV, N.K.

Synthesis of cytidine phosphate glucose. Izv.AN SSSR.Otd.khim.
nauk no.8:1491-1493 Ag '62. (MIRA 15:8)

1. Institut khimii prirodnnykh soyedineniy AN SSSR.
(Cytidine phosphate) (Glucose)

NIKOL'SKAYA, I.I.; BUDOVSKIY, E.I.

Desoxyribonuclease activity of some snake venoms. Vop.med.khim.
8 no.1:73-77 Ja-F '62. (MIRA 15:11)

1. Laboratoriya uglevodov i nukleotidov Instituta khimii
prirodnikh soyedineniy AN SSSR, Moskva.
(DEOXYRIBONUCLEASE) (VENOM)

KOCHETKOV, N.K.; BUDOVSKIY, E.I.; SIMUKOVA, N.A.

Chemical method for the specific splitting of ribonucleic acid.
Biokhimiia 27 no.3:519-525 My-Je '62. (MIRA 15:8)

1. Laboratory of Carbohydrates and Nucleotides, Institute for
Chemistry of Natural Products, Academy of Sciences of the U.S.S.R.,
Moscow.

(NUCLEIC ACIDS)

KOCHETKOV, N.K.; BUDOVSKIY, E.I.; SHIBAYEV, V.N.; GRACHEV, M.A.

Analogues of enzymes of carbohydrate metabolism. Report No.3:
Synthesis of 4-thiouridine diphosphate glucose. Izv. AN SSSR.
Ser.khim. no.9:1592-1600 S '63. (MIRA 16:9)

1. Institut khimii prirodnikh soedineniy AN SSSR.
(Uridine phosphates) (Glucose) (Enzymes)

KOCHETKOV, N.K.; BUDOVSKIY, E.I.; TURCHINSKIY, M.F.; DEMUSHKIN, V.P.

Primary structure of RNA. Specific splitting of ribonucleic acid. Dokl. AN SSSR 152 no.4:1005-1008 O '63. (MIRA 16:11)

1. Institut khimii prirodnkh soyedineniy AN SSSR.
2. Chlen-korrespondent AN SSSR (for Kochetkov).

KOCHETKOV, N.K.; BUDOVSKIY, E.I.; SIMUKOVA, N.A.

Primary structure of RNA. Interaction of RNA with o-methyl-hydroxylamine. Dokl. AN SSSR 153 no.3:597-600 N '63.

(MIRA 17:1)

1. Laboratoriya uglevodov i nukleotidov Instituta khimii prirodnkh soyedineniy AN SSSR. 2. Chlen-korrespondent AN SSSR (for Kochetkov).

KOSHELEVA, G.N.; MUKHAMETKULOVA, E.A.; YELISEYEVA, G.I.; BUDOVSKIY, E. I.

Barium salts of adenylic, guanylic, uridylic, and
cytidylic acids. Met. poluch. khim. reak. i prepar.
no.6:92-100 '62. (MIRA 17:5)

1. Institut khimii prirodnykh soyedineniy AN SSSR.

KOCHETKOVA, N.K.; BULOVSIIY, E.I.; SHIBAYEV, V.N.

Structure and function of nucleoside diphosphate sugars.
Biokhimiia 28 no.4:741-750 J1-Ag '63. (MIRA 18:3)

1. Institut khimii prirodnykh soyedineniy AN SSSR, Moskva.